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REMARKS

Claims 1-26, 28-37, and 39 are all the claims presently pending in the application.

Entry of this Amendment is proper because it does not raise any new issues requiring further search by the Examiner, narrows the issues on appeal, and is believed to place the present application in condition for immediate allowance.

While Applicants believe that independent claims 1, 24, 33, 34, and 35 are patentable over Huberman for at least the reasons set forth in the Amendment under 37 C.F.R. § 1.111 filed on December 13, 2004, to speed prosecution and to define more clearly and particularly the features of the claimed invention, Applicants amend independent claims 1, 24, and 33-35 merely to include the features of dependent claims 27 and 38, which define more clearly that the claims *cache* the predicted document, as already recited in the preamble of the respective claims.

Applicants note that no further search or consideration should be necessary to enter these amendments since claims 27 and 38 already were searched and considered by the present Office Action.

Claims 27 and 38 correspondingly are canceled without prejudice or disclaimer.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Huberman (U.S. Patent No. 6,115,718).

This rejection is respectfully traversed in the following discussion.

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I. THE CLAIMED INVENTION

In conventional web navigation methods, finding the most relevant document is somewhat cumbersome and difficult. For example, as shown in Figure 2 of the present application, on the search result page, the searched results are ordered according to their search score, with the highest being shown on the left hand side and sliding to the lowest across the page to the right hand side. In Figure 2, L1-L12 are links and D1-D10 are documents. As can be seen in Figure 2, finding the most relevant document D10 using conventional web navigation methods is time consuming (e.g., see specification at page 8, lines 17-24).

That is, a user always must traverse links to search pages. A common problem is that after a search is input and the results are returned, the user goes through each page (document) one-by-one. However, if the user loses the list by, for example, traversing through a plurality of pages by following links on each page, then the user must back up and must return to a top page (link). Thus, for example, after traversing D6, the user must return to the top (the search results page) and then go to link L2. It is noted that going through the documents under link L2, document D5 will be accessed twice by traversing the links under link L1 or under link L2. The operator then returns to the top and accesses link L3 and so forth, until document D10 is finally found. Thus, the conventional web navigation pattern is slow and time-consuming (e.g., see specification at page 9, lines 1-12).

The claimed invention, on the other hand, provides a method for the predictive caching of data that can be used to reduce the latency with which documents can be retrieved from remote systems, such as the World Wide Web and databases (e.g., see specification at page 10, lines 18-21). The exemplary method can make an estimate of which documents or data blocks

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are most likely to be visited by a certain human researcher, given that a number of documents and data blocks have already been retrieved by the user, in a given order. The exemplary method can employ the knowledge of the order with which previous documents have been retrieved, and can make a spatial interpolation which indicates which documents are most likely to be retrieved next. The data caching method continuously sends to the client machine the documents which are most likely to be accessed next (e.g., see specification at page 11, lines 7-15).

Thus, with the exemplary aspects of the claimed invention, data can be predictively cached to reduce the latency with which documents can be retrieved from remote network systems, such as the World Wide Web and databases (e.g., see specification at page 11, lines 16-18).

II. THE PRIOR ART REJECTION

Claims 1-39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Huberman (U.S. Patent No. 6,115,718).

Applicants incorporate herein by reference the traversal arguments presented in the Amendment under 37 C.F.R. § 1.111 filed on December 13, 2004, for the Examiner's convenience.

In the "Response to Arguments", the Examiner alleges that "*directional Web caching*" is not given patentable weight since this feature is recited in the preamble of independent claims 32 and 35 (see Office Action at page 9, paragraph 25). Applicants respectfully disagree with the Examiner's position for the following reasons.

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That is, contrary to the Examiner's position, at least independent claim 32 and dependent claims 4, 17, 27, 38, and 39 clearly define "caching", as recited in the preamble of the respective claims. Thus, these features clearly should have been given patentable weight.

Independent claim 32

First, independent claim 32 clearly recites, *inter alia*, "based on said first document accessed, predicting and caching a second document for being accessed by said user" (emphasis added). Thus, these features should have been given patentable weight.

Applicants note, however, that the rejection of claim 32 does not establish (or mention) (see Office Action at page 3, lines 9-17) whether Huberman discloses or suggests "predicting and caching a second document for being accessed by said user", as recited in claim 32 (emphasis added).

Instead, as the Examiner points out, Huberman merely includes a "Recommend" feature that provides a "list" of related web pages. Huberman clearly does not, however, disclose or suggest "predicting and caching" the web page or document. Instead, the user must select the document from the list of related web pages in order to view the document.

In the "Response to Arguments", the Examiner also alleges that "*Huberman clearly discloses a method of predictive directional Web caching (indicates a probability that a user will access a document; col. 2, lines 14-25; col. 2, lines 44-47; identify "relevant" documents to one currently being viewed; col. 3, lines 20-29; col. 8, line 64 - col. 9, line 19)*" (see Office Action at page 10, lines 1-4).

However, contrary to the Examiner's position above, and as the Examiner points out in the text of the rejections, Huberman merely discloses predicting and identifying relevant pages

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and presenting a "list" of the relevant pages (e.g., see Huberman at column 9, lines 17-19), not "predicting and caching" the pages, as recited in independent claim 32.

Unlike Huberman, with the exemplary aspects of the claimed invention data can be predictively cached to reduce the latency with which documents can be retrieved from remote network systems, such as the World Wide Web (e.g., see specification at page 11, lines 16-18).

That is, consider a researcher who is interested in the Space Shuttle, as exemplarily described in the present application. Assume that there exists a page having an article (text) on the Space Shuttle Project and on that page there is a link to a picture (image) of the launching of the Space Shuttle, and it has been discovered that almost all users (e.g., 99%) have accessed the picture (clicked on the link) of the launch after having first opened the first page (e.g., the article). By knowing this information (e.g., that the probability is extremely high that the launch image will be opened by users having first accessed the text article), according to the claimed invention, the server can cache the picture of the Shuttle launch in advance and in anticipation of the user wanting to view this image, based on the user having first opened the page having the article on the Space Shuttle. That is, according to the claimed invention, the server caches the launch image while the user is reading the article on the Space Shuttle, thereby reducing any client side latency and instantly displaying the launch image as soon as the user clicks on the launch image. Such an image can be stored in the buffer memory of the client side. Thus, there is substantially no wait (e.g., no latency) on the client side (e.g., see specification at page 33, lines 1-18).

In comparison, conventional browser may include a cache and the browser may keep a history of the previous 10-15 accesses. However, the claimed invention clearly differs from the simple caching by the browser of the conventional methods in that the claimed invention

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predicts, based on a user's opening of a first page, which page or pages will most likely be opened next by the user (e.g., see specification at page 33, lines 19-23).

Thus, according to the claimed invention, the method of predictive directional Web caching can reduce the latency with which documents can be retrieved from remote systems, such as the World Wide Web.

Thus, independent claim 32 clearly is not anticipated by Huberman.

Claim 4

On the other hand, Applicants submit that claim 4 clearly recites, *inter alia*, "automatically downloading a most likely to be retrieved document to the user's browser before being requested by the user" (emphasis added).

In rejecting claim 4, the Examiner cites Huberman at column 3, line 60 to column 4, line 8, as allegedly disclosing all of the features of claim 4. However, the relied upon portions of Huberman have nothing to do with "automatically downloading a most likely to be retrieved document to the user's browser before being requested by the user", as recited in claim 4 (emphasis added).

Instead, the relied upon portions of Huberman merely describe the underlying structure of a Web page, as shown in Figure 1 of Huberman (see Huberman at column 3, lines 58-67 and column 4, lines 1-4), and that "[t]raversing or surfing of the Web is accomplished by indicating selection of a link and then invoking a command to cause the browser to load and display the web page indicated by the link" (see Huberman at column 4, lines 5-8).

Hence, Huberman clearly does not disclose or suggest downloading (or caching) a document before being requested by the user, as recited in claim 4.

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For the foregoing reasons, Huberman clearly does not anticipate claim 4.

Claim 17

Claim 17 recites, *inter alia*, “*monitoring that another user retrieves the first document; estimating that the user is potentially interested in the second document regardless of whether there is a hypertext link from the first document to the second document; and sending the second document to the user, for future retrieval*” (emphasis added).

With respect to claim 17, however, the Examiner has not established (or mentioned) how Huberman sends the document to the user, for future retrieval, as recited in claim 17.

As mentioned above, and as the Examiner points out, Huberman merely discloses predicting and identifying relevant pages and presenting a “list” of the relevant pages (e.g., see Huberman at column 9, lines 17-19), not sending the document to the user, for future retrieval, as recited in claim 17.

For the foregoing reasons, Huberman clearly does not anticipate claim 17.

Claim 27

Moreover, claim 27 clearly recites, *inter alia*, “*caching said predicted second item*” (emphasis added).

With respect to claim 27, however, the Examiner has not established (or mentioned) how Huberman caches the predicted second item, as recited in claim 27.

As mentioned above, and as the Examiner points out, Huberman merely discloses predicting and identifying relevant pages and presenting a “list” of the relevant pages (e.g., see

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Huberman at column 9, lines 17-19), not caching the predicted second item, as recited in claim 27.

For the foregoing reasons, Huberman clearly does not anticipate claim 27.

As mentioned above, Applicants believe that independent claim 24 is patentable over Huberman. However, to speed prosecution, independent claim 24 is amended merely to incorporate the features of dependent claim 27. Thus, independent claim 24 is not anticipated by Huberman for at least the reasons set forth above with respect to claim 27.

Claim 38

Also, claim 38 recites, *inter alia*, “caching said predicted subsequent document” (emphasis added).

With respect to claim 38, the Examiner takes the position that column 3, lines 31-43 and column 10, lines 17-34 discloses “caching” the document, as recited in claim 38. However, contrary to the Examiner’s position, the relied upon portions of Huberman merely define the meaning of a “Web Page”, “the Web”, “the World Wide Web”, and a “Web Site”, not caching the predicted subsequent document, as recited in claim 38.

In fact, no where does Huberman disclose or suggest “caching” the predicted subsequent document, as recited in claim 38.

As mentioned above, and as the Examiner points out, Huberman merely discloses predicting and identifying relevant pages and presenting a “list” of the relevant pages (e.g., see Huberman at column 9, lines 17-19), not caching the predicted subsequent document, as recited in claim 38.

For the foregoing reasons, Huberman clearly does not anticipate claim 38.

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As mentioned above, Applicants believe that independent claim 1 is patentable over Huberman. However, to speed prosecution, independent claim 1 is amended merely to incorporate the features of dependent claim 38. Thus, independent claim 1 is not anticipated by Huberman for at least the reasons set forth above with respect to claim 38.

Claim 39

Also, claim 39 recites “automatically caching said predicted subsequent document prior to the user’s request for said predicted subsequent document”, respectively (emphasis added).

With respect to claim 39, the Examiner also takes the position that column 3, lines 31-43 and column 10, lines 17-34 discloses “automatically caching said predicted subsequent document prior to the user’s request for said predicted subsequent document”, as recited in claim 39. However, as mentioned above, the relied upon portions of Huberman merely define the meaning of a “Web Page”, “the Web”, “the World Wide Web”, and a “Web Site”, not “automatically caching...”, as recited in claim 39.

In fact, no where does Huberman disclose or suggest “automatically caching...”, as recited in claim 39.

As mentioned above, and as the Examiner points out, Huberman merely discloses predicting and identifying relevant pages and presenting a “list” of the relevant pages (e.g., see Huberman at column 9, lines 17-19), not “automatically caching...”, as recited in claim 39.

For the foregoing reasons, Huberman clearly does not anticipate claim 39.

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Independent claims 1, 24, and 33-35

As mentioned above, while Applicants believe that independent claims 1, 24, 33, 34, and 35 are patentable over Huberman for at least the reasons set forth in the Amendment under 37 C.F.R. § 1.111 filed on December 13, 2004, to speed prosecution and to define more clearly and particularly the features of the claimed invention, Applicants amend independent claims 1, 24, and 33-35 merely to incorporate the features of dependent claims 27 and 38, which define more clearly that the claims *cache* the predicted document, as already recited in the preamble of the respective claims.

Applicants note that no further search or consideration should be necessary to enter these amendments since claims 27 and 38 were searched and considered by the present Office Action.

Applicants also submit that, for the reasons set forth above, Huberman clearly does not disclose or suggest these features of the claimed invention. Instead, as mentioned above and as pointed out by the Examiner, Huberman merely discloses predicting and identifying relevant pages and presenting a "list" of those relevant pages (e.g., see Huberman at column 9, lines 17-19), not "*caching*..." the relevant pages, as recited in independent claims 1, 24, and 33-35.

For the foregoing reasons, Huberman clearly does not anticipate independent claims 1, 24, and 33-35.

Dependent claims 2-23, 25-26, 28-31, 36-37, and 39 also are patentable over Huberman based on their respective dependencies from independent claims 1, 24, and 33-35, as well as for the additional features recited therein.

Accordingly, the Examiner respectfully is requested to reconsider and withdraw this rejection and permit these claims to pass to immediate allowance.

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III. CONCLUSION


In view of the foregoing, Applicants submit that claims 1-26, 28-37, and 39, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully submitted,

Date: July 19, 2005



John J. Dresch, Esq.
Registration No. 46,672

Sean M. McGinn, Esq.
Registration No. 34,386

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254

CERTIFICATE OF TRANSMISSION

I certify that I transmitted via facsimile to (571) 273-8300 the enclosed Amendment under 37 C.F.R. § 1.116 to Examiner Jungwon Chang on July 19, 2005.


John J. Dresch, Esq.
Registration No. 46,672
Sean M. McGinn, Esq.
Registration No. 34,386